

ABSTRACT

Video decoder methods and apparatus are described. In accordance with the invention, hardware decoder circuitry, e.g., intra-coded image decoding circuitry and motion vector reconstruction circuitry, is used in combination with a general purpose processor, e.g., Pentium processor, to perform video decoding operations. The video decoder hardware circuitry of the present invention is responsible for performing non-memory intensive functions. The general purpose processor or a general purpose processor operating in conjunction with a graphics processor are used to perform memory intensive video decoding operations such as motion compensated predictions. The video decoding hardware circuitry of the present invention can be implemented as a separate physical device, e.g., chip, or can be implemented on the same physical chip as a general purpose processor with which it works. By using the video decoding hardware circuitry of the present invention in combination with a CPU, a computer system's ability to perform video decoding operations can be significantly increased at little cost in terms of additional hardware.